Pressure Injury Current Awareness Service

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(2020) "The Importance of Pressure Injury Evidence During COVID-19" Advances in skin & wound care 33(8): 399
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Background: Spinal cord injury is a complex chronic health condition that requires individuals to actively self-manage Therefore, an evidence-based, self-management app would be of value to support individuals with spinal cord injury in the prevention of pressure injuries; Objective: The main objectives of this study were to (1) establish a co-design approach for developing a high-fidelity prototype app for the self-management of individuals with spinal cord injury, (2) design the prototype that resulted from this process, and (3) conduct the first usability assessment of the prototype app; Methods: We adopted a co-design approach to develop an evidence-based app prototype Starting from a preliminary content model (based on clinical guidelines for the prevention of pressure injuries) and three research-based user personas, we conducted an ideation workshop involving individuals with spinal cord injury and health care professionals The ideation workshop formed the basis for two consecutive design sprints; The result of this co-design phase was an interactive app prototype The prototype was evaluated in two rounds of usability testing (N4 and N15, respectively) using a combination of qualitative and quantitative methods; Results: The co-design process resulted in a high-fidelity prototype with two key components: a self-management component and a communication component The final prototype included a combination of features to support individuals with spinal cord injury in the prevention of pressure injuries, namely a smart camera, pressure injury diary, expert consultation, reminders, and knowledge repository Findings of the usability testing showed that most participants navigated the app fluently with little back and forth navigation and were able to successfully complete a set of assigned tasks These positive results are supported by the average system usability score achieved (785/100; range 475-950) and our qualitative analysis of the semistructured interviews Despite an overall positive evaluation of the app prototype, we identified areas for improvement (eg, inclusion of a search function); Conclusions: Individuals with spinal cord injury often need to navigate competing interests and priorities, paired with uncertainty about the accuracy and relevance of clinical recommendations Understanding what matters to individuals with spinal cord injury can help guide the design of behavioral interventions that are useful and acceptable to these individuals in their daily lives This study shows that involving individuals with spinal cord injury and health care professionals in co-designing a self-management app can foster knowledge cocreation at the intersection of lived experience, medical expertise, and technical solutions (©Julia Amann, Maddalena Fiordelli, Mirjam Brach, Sue Bertschy, Anke Scheel-Sailer, Sara Rubinielli Originally published in JMIR mHealth and uHealth (), 09072020)
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Prostate positioning is a method used to manage ventilator-associated lung injury and promote oxygenation in severe acute respiratory distress syndrome (ARDS) With the COVID-19 pandemic and ever-increasing numbers of patients presenting with clinical pictures of ARDS, critical care practice guidelines and governing bodies are recommending prone positioning for adult patients with ARDS related to severe COVID-19 infection Complications associated with prone positioning in critical care have the potential to cause patient morbidty Common complications with prone positioning include the development of pressure injuries (PIs) on the forehead, chest, pelvis, chin, shoulders, genitalia, iliac crest and knees Ocular damage and musculoskeletal issues may also occur These complications are largely avoidable by implementing appropriate interventions This article summarises current best practice and literature on interventions to reduce skin injury and other complications associated with prone positioning of COVID-19 patients with ARDS
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Introduction: To the majority of health care professionals, burns present as a challenging and potentially distracting diagnosis. Because of their perceived complexity, they often eclipse other medical problems which can often be life threatening. Pressure related injuries, in rare instances can mimic and be mistaken for full thickness burns. Long lies may cause pressure necrosis of decubitus areas and compartment syndrome of vulnerable areas. Compartment syndrome, is a surgical emergency requiring prompt diagnosis and intervention. It may be missed in the context of a long lie after a collapse and maybe detrimental to patients’ prognosis.

Methods: We reviewed cases referred to our Burns unit in the last four months to find cases of pressure related injuries referred as burn wounds. Furthermore, we also performed a literature search to find any similar cases to ours.

Results: Two cases, with acute pressure related injuries from long lies had been mistaken for burn wounds, were referred to our unit in the last four months. In one case a missed compartment syndrome resulted in a below elbow amputation.

Conclusion: Pattern analysis and recognition are very important diagnostic tools in medicine. Detailed history taking and examination cannot be emphasised enough. Training both emergency departments and plastic surgeons in recognising long lie related injuries will decrease possible associated dangers such as missing a compartment syndrome.

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Black, J and J Cuddigan (2020) "Skin manifestations with COVID-19: the purple skin and toes that you are seeing may not be deep tissue pressure injury" World Council of Enterostomal Therapists Journal 40(2): 18-21

Many reports are occurring concerning purpuric/purple skin and purple toe lesions in patients diagnosed with COVID-19 (SARS-CoV-2) (Figure 1). Wound care providers are being asked if these skin lesions are forms of Deep Tissue Pressure Injury and/or “skin failure.” Early reports of COVID-19 related skin changes included rashes, acral areas of erythema with vesicles or pustules (pseudo-chilblain), other vesicular eruptions, urticarial lesions, maculopapular eruptions, and livedo or necrosis. The pattern and presentation of skin manifestations with COVID-19 is more than rashes. The purpose of this paper is to guide the wound care clinician in determining if the “purple skin” being seen is a deep tissue pressure injury or a cutaneous manifestation of COVID-19.

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Boylan, C (2020) "Paediatric pressure injuries: considerations for this patient cohort" Wound Practice & Research 28(2): 84-89

Paediatric patients are at risk of developing pressure injuries; however, there is a paucity of literature addressing the specific considerations related to pressure injury prevention for this patient cohort. Pressure injuries are generally linked to the adult patient population, hence most of the literature available to date is related to prevention and management of pressure injuries in older people or adult patients considered to be at high risk. The aim of this paper is to outline recommended pressure injury risk assessments for the neonatal/ paediatric patient and to highlight some specific pressure injury prevention considerations when caring for this often-overlooked patient population.

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This paper aims to discuss the literature pertaining to early pressure-shear induced tissue damage detection, with emphasis on sub-epidermal moisture measurement (SEM). The current method for pressure detection is visual skin assessment (VSA); however, this method is fraught with challenges. Advances in early detection of pressure ulcers are reported in the literature and mainly involve measuring inflammation markers on weight-bearing anatomical areas in order to capture the first signs of tissue damage. One novel technique currently in use is SEM measurement. This biophysical marker is the product of plasma that leaks as a response to local inflammation arising due to pressure-shear induced damage over bony prominences. The early detection of tissue damage is beneficial in two different ways. First, it enables early intervention when the damage is still microscopic and reversible and, therefore, has the potential to prevent further aggravation of healthy surrounding tissue. This arises by avoiding the causation of the problem and stopping the knock-on effect of inflammation, especially when the rapid pressure ulceration pathway of deformation is in place. Second, when the slow ischaemic-reperfusion related mechanism is undergoing,
cell death can be avoided when the problem is identified before the cell reaches the "death threshold," completely averting a pressure ulcer (© 2020 Medicalhelplinescom Inc and John Wiley & Sons Ltd)

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This 1:5 case-control study aimed to identify the risk factors of hospital-acquired pressure injuries (HAPIs) and to develop a mathematical model of nomogram for the risk prediction of HAPIs Data for 370 patients with HAPIs and 1971 patients without HAPIs were extracted from the adverse events and the electronic medical systems They were randomly divided into two sets: training (n = 1951) and validation (n = 390) Significant risk factors were identified by univariate and multivariate analyses in the training set, followed by a nomogram constructed Age, independent movement, sensory perception and response, moisture, perfusion, use of medical devices, compulsive position, hypoalbuminaemia, an existing pressure injury or scarring from a previous pressure injury, and surgery sufferings were considered significant risk factors and were included to construct a nomogram In both of the training and validation sets, the areas of 090 under the receiver operating characteristic curves showed excellent discrimination of the nomogram; calibration plots demonstrated a good consistency between the observed probability and the nomogram's prediction; decision curve analyses exhibited preferable net benefit along with the threshold probability in the nomogram The excellent performance of the nomogram makes it a convenient and reliable tool for the risk prediction of HAPIs

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Patient skin injuries associated with medical or therapeutic devices are increasingly reported in the literature With the coronavirus (COVID-19) pandemic, healthcare staff are wearing personal protective equipment (PPE) for prolonged periods Anecdotally, cases of healthcare workers' self report of injuries to their face, particularly the bridge of the nose, upper cheek, forehead and above the ears, as a result of extended use of eye protection and masks is increasing Protecting the skin of frontline healthcare staff is as important as protecting patients' skin The tip sheet presented in this paper provides staff with a guide in the form of written and visual assistance in order to reduce the risk of device-related pressure injuries (DRPIs) in healthcare staff caused by PPE

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Study Design: Psychometric study based on retrospectively collected data; Objective: Development of a pressure injury (PI) risk screening instrument for use during spinal cord injury (SCI) rehabilitation; Setting: Tertiary rehabilitation center; Methods: Medical charts of 807 inpatients participating in SCI rehabilitation were reviewed Two models (recursive partitioning and logistic regression) were developed with demographic and Functional Independence Measure (FIM) variables and compared with the SCI Pressure Ulcer Scale (SCIPUS, n 603) and Braden scale (n 100) using modeling (n 615) and validation (n 192) datasets Sensitivity and specificity analyses were completed for each model Models yielding high sensitivity and area under the curve (AUC), while minimizing false negatives (FN < 05%) were preferred; Results: In the modeling dataset, a single dichotomized FIM variable, Bed/Chair Transfers <4, was predictive of PI incidence (sensitivity 97%, AUC 74%, FN 049%) and had similar metrics as the logistic regression model (sensitivity 97%, AUC 76%, FN 049%) The recursive partitioning model had fewer FN (sensitivity 98%, AUC 75%, FN 033%) When applied to the validation dataset, both models performed similarly The SCIPUS performed poorly (AUC < 70%) When analyses were limited to cases with available Braden data and no admission PI, recursive partitioning outperformed the other methods for PI risk screening; Conclusion: A recursive partitioning model, named the SCI-PreSORS (SCI Pressure Sore Onset Risk...
Purpose: Medically underserved adults with spinal cord injury (SCI) remain at high risk of incurring medically serious pressure injuries, as evidenced by the high prevalence of over 3% among hospital patients. The purpose of this qualitative analysis was to explore the circumstances leading to medically serious pressure injury development among medically underserved adults with SCI.

Methods: A qualitative secondary case analysis of treatment notes from a randomized controlled trial (RCT) was conducted. The RCT was a 2x2 factorial design comparing a basic pressure injury prevention program versus a modified pressure injury prevention program, and providing wound care information versus no wound care information. Participants were 25 community-dwelling, SCI patients living in acute care facilities. The six themes related to medically serious pressure injury development were: (1) lack of rudimentary knowledge pertaining to wound care; (2) equipment and supply issues; (3) comorbidities; (4) non-adherence to prescribed bed rest; (5) inactivity; and (6) circumstances beyond the intervention's reach. Together, these factors may have undermined the effectiveness of the intervention program. Modifications, such as assessing health literacy levels of patients prior to providing care, providing tailored wound care education, and focusing on equipment needs, have potential for altering future rehabilitation programs and improving health outcomes.

Findings: Of the 25 participants, 40 unique medically serious pressure injuries were detected. The six themes related to medically serious pressure injury development were identified as: (1) lack of rudimentary knowledge pertaining to wound care; (2) equipment and supply issues; (3) comorbidities; (4) non-adherence to prescribed bed rest; (5) inactivity; and (6) circumstances beyond the intervention's reach. Together, these factors may have undermined the effectiveness of the intervention program. Modifications, such as assessing health literacy levels of patients prior to providing care, providing tailored wound care education, and focusing on equipment needs, have potential for altering future rehabilitation programs and improving health outcomes.

Conclusions: To provide patients with spinal cord injury with the necessary information to prevent medically serious pressure injury development, health care providers need to understand their patient's unique personal contexts, including socio-economic status, language skills, and mental/cognitive functioning. When providing wound care information to patients with spinal cord injury who have developed a medically serious pressure injury, practitioners should take into account the level of health literacy of their patient in order to provide education that is appropriate and understandable. Practitioners should be aware of how to help their patient advocate for outside services and care that address their equipment needs, such as finding funding or grants to pay for expensive medical equipment.

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We report incidence rates for pressure injuries seen in an acute hospital in Singapore that were classified as Stage 3 or Stage 4. The characteristics of patients and the factors that explain variation in the primary outcome of duration of hospital stay are summarized. Existing data were available from Singapore General Hospital for all admissions from January 2016 to December 2019. Univariable analysis was done and a multivariable Poisson regression model estimated Incidence rates declined from 405 to 34 per 1000 admissions in the 48 months between 2016 and 2019. The vast majority were community acquired with 75% in admission from the patients’ home. Factors that explain variation in length of stay were, ethnicity; site of injury; community versus healthcare associated; inter-hospital transfer; fracture as reason for admission; and the number of days between admission and assessment of wound by specialist nurse. Stage 3 and 4 injuries arise in a home environment most often and are subsequently managed in acute hospital at high cost.

Pressure injuries remain a focus for patient safety and quality initiatives, particularly in acute care settings. This focus has been facilitated by the generation of data on pressure injury point prevalence which began publication in Australia in 2003. Since then, many healthcare organisations have undertaken serial pressure injury point prevalence audits (PIPPA) as part of a comprehensive program to measure and address pressure injuries. In our local health district, there has been a commitment to an annual PIPPA, but recently we sought to determine if we had reached a tipping point where the relative benefits of collecting this snapshot data may no longer justify the costs, particularly given the economic environment in the Australian healthcare system. The annual cost of conducting a district-wide PIPPA was calculated, and this is discussed alongside both non-financial costs and organisational and auditor benefits.

The aim of the study was to describe the prevalence and general characteristics of acute and chronic wounds in 2018 in Alentejo (Portugal) continuing care units. In order to look at associations, wound characteristics studied were location, type, place of acquisition, number, and duration, and patient characteristics were sex, age, and presence of risk factors. During the first 2 weeks of February 2018, a total of 770 patients were assessed at continuing care units of Alentejo. Of these, 135 exhibited wounds, a prevalence of 17.5%. Almost two out of three patients (63%) had arterial hypertension, slightly more than one in three (37%) had a stroke and/or immobility and 30% had diabetes. Of the total wounds identified, 18% were acute wounds and 82% were chronic wounds. Of the 24 acute wounds, traumatic wounds (76%), and surgical wounds (22%) were the most prevalent. The four types of pressure ulcers represented 80% of the chronic wounds. The median duration of the pressure ulcers was 55 months and 25% had duration over 10 months.

Gefen, A and E Soppi (2020) "What is new in our understanding of pressure injuries: the inextricable association between sustained tissue deformations and pain and the role of the support surface" Wound Practice & Research 28(2): 58-65
This paper first provides an overview of the contemporary research findings and latest aetiological discoveries concerning the prevention of pressure injuries (PIs) as reported in the 2019 version of the Prevention and treatment of pressure ulcers/injuries: clinical practice guideline (known as the International guideline), including, where relevant, through the new prism of the coronavirus disease 2019 (COVID-19) pandemic. Second, the biomechanical principles of PI prevention (PIP) through minimisation of tissue deformation levels are explained from a support surface design perspective. Third, and related to the second, the association between alleviation of sustained tissue deformations and mitigation of PI-risk-related or PI-related pain are reviewed with a focus on the role of the support surface. Fourth, and last, a discussion of the current PI aetiology theory is presented from a clinical practical perspective, using one documented patient testimony and two additional patient case stories, which are used here to analyse the complex interlinks between the known aetiological factors in PIs -- discomfort and pain.

We report incidence rates for pressure injuries seen in an acute hospital in Singapore that were classified as Stage 3 or Stage 4. The characteristics of patients and the factors that explain variation in the primary outcome of duration of hospital stay are summarized. Existing data were available from Singapore General Hospital for all admissions from January 2016 to December 2019. Univariable analysis was done and a multivariable Poisson regression model estimated Incidence rates declined from 405 to 34 per 1000 admissions in the 48 months between 2016 and 2019. The vast majority were community acquired with 75% in admission from the patients’ home. Factors that explain variation in length of stay were, ethnicity; site of injury; community versus healthcare associated; inter-hospital transfer; fracture as reason for admission; and the number of days between admission and assessment of wound by specialist nurse. Stage 3 and 4 injuries arise in a home environment most often and are subsequently managed in acute hospital at high cost.
These are novel epidemiological data from a hospital in the tropics where the potential to improve outcomes, implement screening and prevention, and thus increase the performance of health services is strong (© 2020 Medicalhelplines.com Inc and John Wiley & Sons Ltd)

It can be difficult to determine whether a wound on the foot should be classified as a pressure injury or a foot ulcer. The literature defines pressure injuries as localised injury to the skin/underlying tissue as a result of unrelieved pressure due to immobility in combination with shear; however, the definition of foot wounds is less clear and includes underlying aetiology and trauma/pressure as contributing factors. Poor differentiation of foot wounds can negatively impact the accuracy of incident reporting. The authors reviewed the literature to better define both pressure ulcers and foot ulcers and created a guideline to aid staff members in decision-making related to diagnosis and incident reporting.

Background: At Heart Hospital in Doha, Qatar (HH), 127 pressure injuries (PI) were identified in 2014, corresponding to an incidence of 61/1000 patient-days in first 4 months of 2014 Hospital-acquired pressure injury (HAPI) is one of the most common preventable complications of hospitalisation HAPI significantly increases healthcare costs, including use of resources (dressings, support surfaces, nursing care time and medications). They also have a significant impact on patients in terms of pain, worsened quality of life, psychological trauma and increased length of stay. Working with the Institute for Healthcare Improvement (IHI), we implemented evidence-based practices in all In patient Units at HH with the aim of reducing the number of HAPIs by 60% within 2 years; Methods: In collaboration with IHI, our multidisciplinary clinical and risk assessment teams tested several changes and implemented a successful programme. The Surface, Skin inspection, Keep moving, Incontinence and Nutrition bundle was implemented. Signs, turning clocks and PI incidence 'calendars' were used in the units as reminders. Attention was paid to endotracheal tube ties in order to address device-related pressure injuries. Counts of HAPI (incidence) and number of PIs per 100 patients surveyed (prevalence) were prominently displayed. Changes were tested using the Plan-Do-Study-Act methodology. Statistical analysis using the independent t-test was applied to detect the significance of any difference in the incidence of HAPI before and after implementation of the changes; Results: The incidence of HAPI dropped from 61/1000 patient-days to 11/1000 patient-days, an 835% reduction. The prevalence, based on quarterly survey fell from 97/100 patients surveyed to 20/100 patients surveyed, a 734% decline; Conclusions: The interventions proved to be successful, reducing the incidence of PI by >80%. The outcomes were sustained over a 4-year period.

High-pressure injection injuries are one of several orthopedic injuries that require urgent evaluation and treatment. Notoriously, these injuries appear to be benign puncture wounds at initial presentation. However, the zone of injury can extend subcutaneously from the tip of the finger to the mediastinum and have catastrophic effects on the affected extremity. Although relatively rare, high-pressure injection injury is well-described in the current literature, with the first case report dating back to 1937. Patients often present for evaluation at trauma centers, but this is not exclusive. This article provides an overview of the injury and the current literature on management and prognostic factors (Copyright © 2020, StatPearls Publishing LLC)

The article presents evidence for low friction fabric for preventing pressure injuries (PIs). Topics discussed include evidence supporting use of a low friction fabric in conjunction with an incontinence product for older individuals to reduce the incidence of PIs; and low friction fabrics could be used to prevent pressure injuries in individuals with a moderate to high pressure injury risk.
An editorial is presented on resources for pressure injury practice during COVID-19 pandemic. Topics discussed include area that is under-addressed in the pressure injury research despite the vulnerability of little ones in the hospital environment; and discuss the benefits and costs of conducting pressure injury prevalence auditing, while Boylan presents a focus on pressure injury prevention in children and neonates.

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In November 2019, the third edition of the International guideline was published. Dissemination of clinical guidelines and translation into practice is shown to be facilitated by resources to support the guideline and address of barriers to implementation. To identify the barriers, facilitators and challenges that influence translation of the recommendations in the International guideline into practice, and resources that might be useful to health professionals, two consultation forums were undertaken. This paper outlines the outcomes from these consultation forums and identifies resources that are considered important for translating recommendation into practice.

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The Japanese Dermatological Association prepared the clinical guidelines for the "Wound, pressure ulcer and burn guidelines", second edition, focusing on treatments. Among them, "Guidelines for wounds in general" is intended to provide the knowledge necessary to heal wounds, without focusing on particular disorders. It informs the basic principles of wound treatment, before explanations are provided in individual chapters of the guidelines. We updated all sections by collecting references published since the publication of the first edition. In particular, we included new wound dressings and topical medications. Additionally, we added "Question 6: How should wound-related pain be considered, and what should be done to control it?" as a new section addressing wound pain, which was not included in the first edition (© 2020 Japanese Dermatological Association).

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Objectives: Skin flap infection is one of the most common complications of cochlear implantation (CI). We identified the causes of skin flap pressure ulcer over the antenna site and proposed wound management strategies. Methods: A total of 250 consecutive pediatric patients who underwent CI to treat profound hearing loss were retrospectively assessed. Data on demographic characteristics, the cause of skin infection, and the time of onset were obtained; Results: Seventy patients (17/250, 6.8%) had a total of 23 skin pressure injuries in the area covering the antenna. We used the National Pressure Ulcer Advisory Panel pressure injury staging system to grade injury severity. Twelve patients had 16 (16/23, 69.6%) stage 1 pressure injuries; the skin reaction resolved after the patients stopped wearing the device for a brief period, loosened the magnet to relieve pressure on the coil, and received topical antibiotics. Five patients with six (6/23, 26.1%) stage 2 pressure injuries and one (1/23, 43%) stage 3 injury, were treated with oral antibiotics. The patient with the stage 3 injury was instructed not to wear the external device for 10-14 days. The incidence of skin reactions associated with the ESPriT speech processor (0/17, 0%) was significantly lower than that associated with the Freedom (2/17, 118%), N5 (8/17, 47.1%), and N6 (7/17, 41.1%; p < 005). processors. Pressure injuries were more common in younger children (≤7 years, 100%) than in older children (>7 years, 0%; p < 005) most likely due to their thinner scalps. Conclusions: Early detection and treatment can prevent implant-threatening infections, particularly in younger children. We believe that better antenna designs will reduce this complication (Copyright © 2020 Elsevier BV All rights reserved).

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Objective: The objective of this scoping review was to explore the existing literature related to preventative interventions, protocols or guidelines for trauma patients at risk of cervical collar-related pressure ulcers to examine and conceptually map the evidence, and to identify any gaps in the literature.

Introduction: Cervical collars are necessary to stabilize cervical spine injuries in trauma patients; however, pressure ulcers are a major complication of prolonged cervical collar use. The longer a patient wears a cervical collar, the more likely the patient will develop a pressure ulcer that will worsen as wear time increases. Inclusion criteria: This review considered both experimental and quasi-experimental study designs, analytical observational studies, case-control studies, analytical cross-sectional studies, descriptive observational studies, qualitative studies, and text and opinion papers. Trauma patients of all ages who presented to the emergency department or intensive care unit with an extrication or field collar in place were included in this study. Extrication collars included but were not limited to Stifneck, Philadelphia and Miami J Methods: The JBI scoping review methodology was used for this review. The database searches included MEDLINE (PubMed), CINAHL, Embase, Scopus, JBI Database of Systematic Reviews and Implementation Reports, NHS Research Register, National Institute of Health Clinical Trial Databases, Cochrane Database of Systematic Reviews, MedNar, WorldwideScience, PsycEXTRA, OAIster, OpenGrey, and ProQuest Dissertations and Theses. The data were extracted using a charting table, which was developed to record key information from sources relevant to the review questions. The findings were descriptively presented, with tables and figures to support the data, when appropriate. Only studies in English from 1965 to December 2018 were included. Results: Preventative interventions found in the seven studies included in the review were: removal of the extrication collar, cervical spine clearance, nursing education, routine nursing care, use of products such as air mattresses, and a multidisciplinary approach to care. Additionally, six of the seven studies identified 28 risk factors associated with the development of cervical collar-related pressure ulcers. Two studies reported elimination of cervical collar-related pressure ulcers while three studies reported reduced incidence in cervical collar-related pressure ulcers. Another study reported a reduction in cervical collar wear time from 14 days to 77 days. Conclusions: Protocols with a multidisciplinary approach are available in the literature to serve as guidance for proper treatment and care of trauma patients’ wearing of cervical collars. Standardized cervical collar protocols should highlight the importance of early identification of trauma patients who may be at risk. Risk factors identified in this review should be assessed and addressed to halt cervical collar-related pressure ulcers as early as possible. Developing in trauma patients who are immediately identified as at risk Preventive interventions identified in the protocols in this scoping review can be used to create a standardized approach to care for patients in cervical collars.
Objective: To develop and examine the reliability, and validity of a questionnaire measuring concordance for performing pressure-relieving activities for pressure ulcer (PrU) prevention and healing in spinal cord injury (SCI) Individuals viewing PrU as a threatening illness were associated with higher scores of concordance and tended to report a greater amount of pressure-relieving performance which provides evidence of criterion related validity; Conclusion: The new questionnaire demonstrated good preliminary reliability and validity in people with SCI Further evaluation is necessary to confirm these findings using larger samples with follow-up data for predictive validity Such a questionnaire could be used by clinicians to identify high risk of patients and to design individualised education programme for PrU prevention (Crown Copyright © 2020 Published by Elsevier Ltd All rights reserved)

Objective: The aim of this research was to compare the effectiveness of two mattresses used in intensive care unit (ICU) high-risk patients in terms of pressure ulcers (PUs) prevention and healing Materials and Methods: The studied sample consisted of 70 consecutive patients aged 18 to 65 years hospitalised in two ICUs of a general hospital in Athens, Greece Virtuoso Mattress System (LINET, Slany, Czech Republic) was used in 35 patients, and standard memory foam mattress was used in the rest of participants Patients were firstly assessed on enrollment and then every 72 hours in order to record the appearance or not of PUs, location of PUs, and stage of PUs, with the maximum follow-up not exceeding the 21 days A number of clinical and biochemical factors, medical treatment, and vital signs were also recorded at each time point Results: Of the 70 patients, 40 (57%) were men, and the mean ± standard deviation age of the sample was 46 ± 14 years The most common area of PUs was the buttocks (34%) followed by the shoulders (22%), with no statistically significant difference detected between the two groups Moreover, the proportion of patients having PUs at stage 2 or higher was 238% on the third day after admission and 611% on the sixth day, with no difference detected between the two groups Cox proportional hazard model revealed that the Virtuoso mattress was associated with almost 56% lower risk of developing PUs compared with standard foam mattress (HR [95% CI]: 0.44 [0.20-0.93]) The percentage of patients healed using the Virtuoso mattress was significantly lower compared with the standard foam mattress at all time points, with the results reaching statistical significance only on the 12th day after admission (77% vs 667%, p < 005) Conclusions: The Virtuoso mattress seems to be more effective compared with standard foam mattresses in the prevention of PUs, whereas the standard foam mattresses are more effective in PU healing process (Copyright © 2020, Marvaki et al)

Telemedicine use in the field of wound care had been increasing in popularity when the novel coronavirus 2019 paralyzed the globe in early 2020 To combat the constraints of healthcare delivery during this time, the use of telemedicine has been further expanded Although many limitations of telemedicine are still being untangled, the benefits of virtual care are being realized in both inpatient and outpatient settings In this article, the advantages and disadvantages of telemedicine are discussed through two case examples that highlight the promise of implementation during and beyond the pandemic

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Aim: To identify how activity and mobility lead to pressure ulcer development, using two objective assessments, one for mobility and one for early pressure ulcer detection Methods: 150 older persons from long-term settings were followed up for 20 days, using an observational, quantitative, prospective study Design: The study was conducted in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology statement Visual skin assessment and sub-epidermal moisture assessments were undertaken daily Activity was measured using the Braden subscale Further, a mobility profile of the participants was identified using a piezoelectric motion sensor which provided a "movement score" (mean number of movements/hour) Movement scores from 22 healthy participants were also measured to better understand the mobility profile in a healthy population

Results: Pressure ulcer incidence using visual skin assessment was 127% (low movers 67%; high movers 6%) and 787% using sub-epidermal moisture assessment (low movers 400%; high movers 387%) Sub-epidermal moisture assessment detected pressure ulcers on average 82 days before they appeared visually on the skin's surface Pressure ulcer detection was 25 times greater using sub-epidermal moisture compared to visual skin assessment

Considering the results of the "movement level" assessment using the motion sensor technology, of all those who were determined to be immobile by Braden, 188% were assessed as high movers

Discussion & Conclusion: Pressure ulcers occurred both in low and high movers, which was unexpected as a similar finding has not been previously reported in the literature Relevance to clinical practice: The traditional focus on low movers/immobile individuals may detract from the identification of those making an abnormally high frequency of unsafe movements Pressure ulcer assessment can be enhanced through a combination of sub-epidermal moisture assessment and visual skin assessment, and through the identification of both individuals with impaired mobility and those abnormally high movements, such as among those who are agitated

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Objective: Cervicovaginal decubitus ulceration is a complication of advanced pelvic organ prolapse that is very difficult to manage Here, we report on the effectiveness of fractional CO2 laser treatment for a wide decubitus ulcer over an apical vaginal vault prolapse

Methods: We report a case of a postmenopausal woman with a wide decubitus ulcer over a vaginal vault prolapse A fractional microablative CO2 Pixel laser system (Alma Lasers, Cesarea, Israel), equipped with an appropriate probe for the vulva, was used to treat the ulceration of a 78-year-old patient across three laser sessions with 30-day intervals

Results: A significant improvement in the decubitus ulcer was noted in a check-up held 2 months after the final laser session, with approximately 95% wound healing observed No side effects were reported during or after the laser therapy

Conclusions: This case demonstrates that fractional Pixel CO2 laser treatment is a viable option for managing decubitus ulcers before definitive surgery in postmenopausal women with advanced pelvic organ prolapse

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Prone positioning is used for surgical access and recently in exponentially growing numbers of coronavirus disease 2019 patients who are ventilated prone To reduce their facial pressure ulcer risk, prophylactic dressings can be used; however, the biomechanical efficacy of this intervention has not been studied yet We, therefore, evaluated facial soft tissue exposures to sustained mechanical loads in a prone position, with versus without multi-layered silicone foam dressings applied as tissue protectors at the forehead and chin We used an anatomically realistic validated finite element model of an adult male head to determine the contribution of the dressings to the alleviation of the sustained tissue loads The application of the dressings considerably relieved the tissue exposures to loading Specifically, with respect to the forehead, the application of a dressing resulted in 52% and 71% reductions in soft tissue exposures to effective stresses and strain energy densities, respectively Likewise, a chin dressing lowered the soft tissue exposures to stresses and strain energy densities by 78% and 92%, respectively While the surgical context is clear and there is a solid, relevant need for biomechanical information regarding prophylaxis for the prone positions, the projected consequences of the coronavirus pandemic make the present work more relevant than ever before © 2020 Medicalhelplinescom Inc and John Wiley & Sons Ltd

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General Purpose: To provide information about the latest evidence-based practice related to pressure injuries (PIs); Target Audience: This continuing education activity is intended for physicians, physician assistants, nurse practitioners, and nurses with an interest in skin and wound care; Learning Objectives/outcomes: After participating in this educational activity, the participant should be better able to: 1 Identify risk factors and prevention strategies for PIs; 2 Explain issues related to the treatment of PI; Abstract: The literature on pressure injuries continues to expand at a rapid rate, and keeping up to date with the current knowledge base is challenging This summary describes six important new articles published in 2018 or 2019 about pressure injury pathophysiology, prevention, treatment, and epidemiology For each article, a description of the results is provided, and then a comment about the significance of the results is offered The new knowledge contained in this review should impact how clinicians incorporate the latest evidence-based practice for pressure injuries

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Serraes, B, A V Hecke, et al (2020) "An exploration of nursing home residents’ experiences of a non-powered static air mattress overlay to prevent pressure ulcers" International wound journal epub ahead of print

Pressure ulcers are injuries to the skin and underlying tissue and are associated with a negative impact on well-being and health-related quality of life This explorative, qualitative study aimed to explore the true meaning of elderly nursing home residents’ perspectives and critical success factors when implementing a new non-powered static air mattress overlay to prevent pressure ulcers Individual, loosely structured interviews were conducted in 12 nursing homes in Flanders, the Northern region of Belgium, a convenience sampling of 14 nursing home residents were selected based on the following eligibility criteria: high risk for pressure ulcer and/or with category 1 pressure ulcer, being bedbound and/or chair-bound, aged >65 years, and use of an alternating air pressure mattress previous to the application of the non-powered static air mattress overlay Interviews were conducted in the participants’ personal rooms between June 2017 and March 2018 Interviews included broad, open-ended questions, to invite and encourage participants to openly discuss their perspectives and experiences Participants were interviewed once during the 14-day observation period between day 3 and day 14 All interviews were audio-recorded and fully transcribed by an experienced transcriber Interviews were read several times to reveal emerging patterns and were marked with codes into NVivo 10 qualitative data analysis software During the process, (sub) themes were discussed by the authors until a consensus was reached Three main themes emerged from the analysis process: rest and sleep; mobility; and discomfort and pain associated with the use of the support surface Themes were divided into multiple subthemes: motion, noise, sensation, repositioning, and transfer in and out of bed Through interviews, critical success factors associated with the implementation were identified, including the lack of information and time needed to evaluate the functionality and effects of a new
mattress overlay Implementation of a non-powered static air mattress overlay to prevent pressure ulcers has a far-reaching impact on nursing home residents’ experiences This study provides insight into the true meaning of patients’ perspectives by focusing on learning from the patients’ experiences that provide valuable information for healthcare professionals and other stakeholders (© 2020 Medicalhelplinescom Inc and John Wiley & Sons Ltd)

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Background: Hospital-acquired pressure injuries are a chronic phenomenon in health care, and their prevention is an ongoing challenge This study aims to investigate whether the application of a silicone-bordered multilayered foam dressing during the initial trauma resuscitation reduces sacral hospital-acquired pressure injury occurrence in trauma patients Methods: This is a single-center quality improvement study using a nonequivalent control group posttest-only design to study the effect of silicone-bordered multilayered foam dressing on the incidence of hospital-acquired pressure injuries The study population included admitted, highest tier trauma activations, age 18 years and older Preimplementation 2014 data were compared with postimplementation 2018 data; Results: The result showed no statistically significant reduction in hospital-acquired pressure injury occurrence between the control and intervention groups Incident rates for sacral hospital-acquired pressure injuries were 023% (2014) compared with 021% (2018) No statistically significant difference was found in the hospital and intensive care lengths of stay or injury severity Preventive dressing costs were $7,689 annually compared with the estimated treatment costs of $70,000 per hospital-acquired pressure injury; Conclusion: Although this study’s hospital-acquired pressure injury reduction rate was not significant, the inclusion of multidisciplinary team members in the quality improvement project led to the cultural hardwiring of hospital-acquired pressure injury prevention among all team members beyond that of just nursing

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Background: Preventing recurrent pressure injuries (RPIs) is one of the important challenges faced in healthcare, but the risk factors of RPIs have not been fully revealed This study aims to explore factors associated with RPIs, by focusing on skin physiology and its microbiome as local factors crucial for the health of healed tissue after pressure injury healing; Methods: This prospective observational study was conducted in a long-term care facility in Japan with patients whose PIs had healed within 1 month Skin physiology was evaluated by stratum corneum (SC) hydration, pH, and transepidermal water loss Skin bacteria was collected by tape stripping, followed by 16S ribosomal RNA-based metagenomics analysis These parameters were evaluated every two weeks over a period of six weeks; Results: A total of 30 patients were included in this study, and 8 patients (267%) had an RPI within 6 weeks In this study, significantly lower SC hydration and a higher rate of Staphylococcus species on the healed site were found in the RPI group; Discussion: A high rate of RPIs (about one in four) points out the necessity of a further care strategy on the healed PIs Lower skin hydration and/or the increase in Staphylococcus bacteria may have a potential to be used as a biomarker for the prediction of RPIs, or may be an intervention point for the prevention of RPIs by, for example, skin cleansing with moisturizing care

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The prevalence of pressure injuries in the intensive care unit (ICU) setting is high with rates ranging from 131% to 455% Evaluation of interventions to prevent pressure injuries should be informed by preliminary research to identify factors that should be considered during the design of future trials The study objectives were to evaluate the process of participant recruitment and monitoring in the ICU; measure the maintenance of body angle (in the side-lying lateral tilt position) and head and neck alignment angle (in the supine position) among immobile critically ill patients when using a purpose-designed positioning device and usual care equipment, and; ascertain the time required to position patients with the purpose-designed positioning
device and the usual care equipment A prospective, observational, feasibility study was conducted in an ICU in Victoria, Australia The sample was immobile critically ill adults at high-risk of developing pressure injuries The usual care interventions were pillows, foam wedges, and rolled towels, and the intervention device was the Z-Flo Fluidizer Positioner The body angle and head and neck alignment were measured on six occasions (at baseline, 1 hour, and 2 hours) The time required for positioning was also measured The sample was predominately male (n 5, 62%) with a mean age of 59 years The majority of patients (n 106, 92%) were not immobile and therefore were ineligible to participate A total of 48 turning and positioning interventions were observed For the side-lying lateral tilt position, the degree of difference from baseline to 2 hours was no more than three degrees for all the devices (the Fluidized Positioner 25°-26°, the foam wedge 29°-27°, and the pillow 23°-21°) For the head and neck position, the degree of difference from baseline to 2 hours was the greatest for the pillow and rolled towel (78°-71°, a difference of 7°) and the pillow alone (79°-74°, a difference of 5°) The degree of difference was the lowest for the Fluidized Positioner (84°-86°, a difference of 2°) Future research to evaluate positioning equipment in the ICU should consider patient eligibility characteristics, particularly immobility The conduct of preliminary studies to inform the design of larger pressure injury prevention trials is recommended

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Aim: To assess sustainability of an intervention used to implement pressure ulcer prevention; Background: The Promoting Action on Research Implementation in Health Service, framework was used to develop an intervention aimed to implement evidence-based pressure ulcer prevention in a hospital setting A short-term follow-up showed that significantly more patients received pressure ulcer prevention A qualitative process evaluation gave support that the intervention and the implementation process changed the understanding and approach to working with pressure ulcer prevention from treating to preventing; Method: The study had a sequential mixed method approach, combining quantitative and qualitative data For the quantitative data, baseline and short-term follow-up (6-8 months) data reported in an initial study were compared with long-term follow-up (36-42 months) data (n 259 patients) For the qualitative data, interviews with registered nurses (n 20), assistant nurses (n 7) and first-line managers (n 5) were performed; Results: The performance of pressure ulcer prevention was sustained 3 years from its conception The number of patients with pressure ulcers was reduced (P 0021) Systematic work with quality measurements, support from first-line managers, internal facilitation, collaboration and pressure ulcer prevention skills could explained the sustainability Obstacles to achieve high-quality pressure ulcer prevention were inadequate communication, high workloads and high rates of new and substitute nurses; Conclusion: Three different components for sustainability on the micro-level are described; benefits for the patients, the need for routinization and development over time Threats to sustainability are described as factors on the macro-level There needs to be collaboration in the healthcare organization from the micro-to-macro levels, and committed experienced nurses are needed to obtain high-quality sustainable pressure ulcer prevention

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Background: The occurrence of pressure injuries (PIs) in an inpatient is a serious medical condition that requires a rigorous clinical evaluation Management of these lesions should be comprehensive, including general measures and local care Wound care occupies a large part of the treatment For large skin loss, the treatment requires plastic surgery techniques for reconstruction Myocutaneous advancement flaps are a good therapeutic option due to the provision of vascularized tissue within the skin defect To ensure the success of the surgery, a good surgical technique preceeded by careful preparation of the patient in conjunction with the anesthesia team is imperative; Case Presentation: We report the case of a 60-year-old bed ridden man for more than two months following an ischemic stroke with left spastic hemiplegia and loss of sensitivity He was transferred to our surgical unit for the management of a chronic stage 4 PIs in the sacral area complicated with cellulitis, subcutaneous abscess and severe sepsis Initial management consisted of resuscitation measures combining fluid therapy, antibiotic therapy, analgesics, blood transfusion, nutritional support, physiotherapy, wound care as well as preventive measures and psychological support Once the granulation tissues were fully developed, the patient underwent
reconstruction surgery with a V-Y myocutaneous advancement flap. The graft was successful with complete wound healing thereafter; Conclusion: PIs are a multifactorial, complex and disabling pathology that requires multidisciplinary care. Surgeons, anesthetists, nutritionists, physiotherapists, nurses must act in agreement in order to provide optimal treatment. Prevention is the rule.

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Background: Critically ill patients are at high risk for pressure injury (PI) due to critical illness combined with multiple interventions and therapies. It is hence important to gain more knowledge about the risk factors associated with pressure injury development and methods for decreasing its prevalence; Aims: To develop and validate a clinical useful ICU-specific PI risk assessment scale based on the RAPS; Method: The study was designed as a prospective instrument development and validation study. The Risk Assessment Pressure Ulcer Scale (RAPS), which in Sweden is a commonly used PI risk assessment scale, was used as a starting point. Development was then performed in different steps; adaption of items and response options to ICU care, discussion with ICU staff members to enhance clinical relevance and usability, test of interrater reliability, revision of instrument, a new test with 300 patients followed by statistical evaluation; Results: The final version of the RAPS-ICU consists of six items: failure of vital organs, mobility, moisture, sensory perception, level of consciousness and special treatment in the form of mechanical ventilation, continuous dialysis and/or inotropic drugs. A total score was reached by summing all responses. Each of the items was found to be significant associated with PI development as well as the total score (p < 0.001). The total score also showed a high interrater reliability (ICC 0.96), good sensitivity and acceptable specificity with AUC 0.71 and ICU staff perceived the RAPS-ICU as relevant and easy to use in clinical practice; Conclusion: The RAPS-ICU is a valid and clinically useful tool to identify patients at risk to develop pressure injury at ICU. (© 2020 The Authors Scandinavian Journal of Caring Sciences published by John Wiley & Sons Ltd on behalf of Nordic College of Caring Science)

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Pressure ulcers are caused by prolonged mechanical loads deforming the underlying soft tissues. However, the mechanical loads for microcirculatory occlusion are unknown. The present study was designed to characterise the simultaneous response of microvascular and lymphatic structures under repeated mechanical loading. The effects of two distinct loading/unloading cycles involving i) incremental pressures 30, 60 and 90mmHg and ii) three repeated cycles of 30mmHg, were evaluated on a cohort of able-bodied volunteers. Microvascular response involved the monitoring of transcutaneous gas tensions, while dermal lymphatic activity was estimated from Near Infrared Imaging. Responses were compared during each load and recovery cycle. Changes in microvascular response were dependent on the load magnitudes, with 30mmHg resulting in a reduction in oxygen tension only, while 90mmHg affected both oxygen and carbon dioxide values in most cases (54%). By contrast, lymphatics revealed near total occlusion at 30mmHg. Although there were inter-subject differences, temporal trends consistently revealed partial or full impairment under load, with recovery during off-loading. The pressure required to cause microcirculatory occlusion differed between individuals, with lymphatic impairment occurring at a lower pressure to that of microvascular vessels. This highlights the need for personalised care strategies and regular off-loading of vulnerable tissues. This article is protected by copyright All rights reserved.

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Websites


“Risk Assessment and Prevention of Pressure Ulcers: a clinical practice guideline from the American College of Physicians” (2015)
http://annals.org/article.aspx?articleid=2173505


NICE Guideline: “Pressure ulcers: prevention and management of pressure ulcers” (April 2014)
http://www.nice.org.uk/guidance/CG179


The Trans Tasman Dietetic Wound Care Group, Evidence based practice guidelines for the nutritional management of adults with pressure injuries (2011)

Registered Nurses’ Association of Ontario - Risk asessment and prevention of pressure ulcers (2011 revised)

National Guideline Clearinghouse – predefined search
https://search.ahrq.gov/search?q=%22pressure+ulcer*%22+or+%22pressure+injur*%22


Cochrane Wounds Group
https://wounds.cochrane.org/news/reviews

The Cochrane Wounds Group was established in 1995 with the aim of using evidence from trials to conduct systematic reviews to establish the effectiveness of interventions for the prevention and treatment of wounds, and interventions for the prevention and treatment of wound complications.

National Pressure Injury Advisory Panel
http://www.npiap.com/
e-Journals

Advances in Skin & Wound Care  (Tables of Contents only)

Eplasty (formerly Journal of Burns & Wounds)  (full text)

EWMA Journal  (full text)

International Wound Journal  (Tables of Contents only)

Journal of the American College of Clinical Wound Specialists  (full text)

Journal of Tissue Viability  (full text)

Journal of Wound Care  (full text)

World Council of Entero stomal Therapists Journal  (full text 2010 onwards)

World Wide Wounds: the premier online resource for dressing materials and practical wound management information  (full text)

The mission of World Wide Wounds is to be the premier online resource for peer-reviewed information on dressing materials providing practical guidance on all aspects of wound management to health professionals worldwide.

Wound Care Advisor  (full text 2014 onwards)

Wound Management and Prevention  (Table of Contents only)

Wound Practice & Research  (full text)

Wound Repair & Regeneration  (full text with 12-month delay)

Wounds International  (full text 2012 onwards)

Wounds UK Journal  (full text 2011 onwards)

e-Books

Acute and chronic wounds  5th ed., 2016

Fast facts for wound care nursing : practical wound management in a nutshell  2011

Nutrition and wound healing  2007


# Queensland Health Libraries and Contact Numbers

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